



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/734,660	12/15/2003	Hajime Nakagawa	FS-F03216-01	7673
37398	7590	02/24/2006	EXAMINER	
TAIYO CORPORATION 401 HOLLAND LANE #407 ALEXANDRIA, VA 22314			CHEA, THORL	
			ART UNIT	PAPER NUMBER
			1752	

DATE MAILED: 02/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/734,660

Applicant(s)

NAKAGAWA ET AL.

Examiner

Thorl Chea

Art Unit

1752

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7, 9-13 and 15-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9-13 and 15-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>01192006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on January 19, 2006 has been entered.
2. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: the specification fails to provide proper antecedent basis for the term "water-soluble gelling agent" in claim 1, 3, 13 and 22.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-7, 9-13, 15-24 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification as originally filed fails to provide support for the term "water-soluble gelling agent" in claim 1, 3 and 13. See the description of "gelling agent" on pages 102-103. The specification as originally filed discloses "water-soluble polysaccharide" as gelling agent on page 103. However, the specification fails to disclose whether all the gelling

Art Unit: 1752

agent are water soluble, and the scope “water-soluble gelling agent” extend beyond the “water-soluble polysaccharide” specified in the specification as originally filed. The specification also fails to disclose “water-soluble gelling agent which can loose fluidity upon decrease in temperature” in claim 1. See the definition of the “gelling agent” on page 102, last paragraph, and “binder which can loose fluidity” on page 42 that loose fluidity when the gelling agent is added. The specification as originally filed fails to disclose that water-soluble gelling agent which can loose fluidity upon decrease in temperature.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-7, 9-13, 15-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The scope of protection sought for the “water-soluble gelling agent” in claims 1, 3, 13. The antecedent basis for the term “gelling agent” in claim 9, 15, 16 is unclear since the term previously used is “water-soluble gelling agent”. The claiming of “70 % by weight or less of water-miscible organic solvent” is unclear with respect to the percentage basis thereof, i.e. whether it means 70 % by weight based on water in water-miscible organic solvent, of 70 % of by weight of or less of water-miscible organic solvent or otherwise. Also, the language “coating solution with an aqueous solvent of water or a mixture of water is confusing. See the term “mixture of water”. The mixture of water cannot be determined in the absence of providing another component of the mixture such as an organic solvent etc...

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-7, 9-13 15-24 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Oya et al (US 2001/0051319A1) .

Oya et al discloses a photographic material as claimed. See Examples 1 on pages 45-51, especially the photothermographic material containing the calcium ions on pages 50, [0265] to [0268], the lower protective layer and upper protective layer on page 49, [0254] and [0256] which contains polymer latex and polyvinyl alcohol. See also the document as a whole. Especially page 37, [0122] to [0124] which discloses a photothermographic material containing a silver salt of an organic acid, a reducing agent , a photosensitive silver halide, at least on protective layer provide on the image forming layer. The polymer latex is used as binder of the image forming layer, protective layer and back layer. The aqueous system utilizing a solvent (dispersing medium) containing water as main component. The polymer latex may be used may be used not only in the image forming layer, but also in the protective layer and back layer. The

Art Unit: 1752

term "polymer latex" used here means a dispersion comprising hydrophobic water-insoluble polymer dispersed in water-soluble dispersing medium. The polymer latex is preferably used as in the protective layer and back layer when the photographic material is used for printing used in which dimensional change caused. Pages 40-41, paragraphs [0167] to [0170] disclose the use of water-soluble polymer as thickener for imparting coating property. The polymers may be either naturally occurring polymers or synthetic polymers and types thereof are not particularly limited. The naturally occurring polymers including starches, seaweeds, vegetable adhesive substances (gum Arabic etc ..), animal proteins (glue, casein, gelatin, egg white) and adhesive fermentation product (pullulan, dextran) and semi-synthetic cellulose. Page 41, [0168], the preferred water-soluble polymers such as sodium arginate, gelatin, dextran, methyl cellulose, carboxymethylcellulose, hydroxyethylcellulose, or polyvinyl alcohol. Page 39, [0141] the protective layer is a layer on the Image forming layer, and it may consist of two or more layer. In such a case, it is preferred that polymer latex should be used at least one layer, especially the outermost protective layer. See also the surfactant containing perfluoroalkylene group is disclosed on page 42, paragraph [0177]; and the silver salt of an organic acid having silver behenate content of 85 mole % or more on page 32, [0061]. In column 33, [0073], it is discloses that "in the present invention, metal ions selected from Ca, Mg, Zn and Ag. The metal ion selected from the Ca, Mg, Zn and Ag are added in the form of nitrate or sulfate and can be added after the formation coating solution and so forth. It is preferably added after dispersion, or before or after the formation of coating solution.

The gelling agent discloses in the present specification disclosure and that of the water-soluble polymer discloses in the Oya et al are the same such as starch, pullulan, carboxymethylcellulose,

Art Unit: 1752

dextran, methyl cellulose et al or polyvinyl alcohol ... The present invention and Oya et al discloses the use of the same additive except using different term such as the term “gelling agent” in the present specification disclosure and term “thickener” in Oya et al. The use of this gelling agent or thickener in combination with the polymer latex would produce similar effect, which is to impart the coating property, and therefore, the fluidity would decrease when the viscosity increases. These phenomena would have understood by the worker of ordinary skill in the art. Oya et al discloses the use of the metal ion such as Ca or Mg ions in the photothermographic material such as shown . The metal ions such as calcium ion and the magnesium ions is disclosed in the specification as on page 104, lines 10-12 know as “gelation accelerator”.

Oya et al exemplified a photothermographic material containing calcium ions (Ca^{2+}) in the photothermographic material an outermost layer containing polymer latex and polyvinyl alcohol and the lower protective layer containing the polymer latex and polyvinyl alcohol. The polyvinyl alcohol is used as thickener and equivalent to the dextran, methylcellulose, carboxymethylcellulose or starch used in the present invention. The polyvinyl alcohol is water soluble, impart the coating property of the coating composition containing polymer latex. It has similar property as gelling agent present in the claimed invention. Therefore, the invention as claimed lacks novelty. Alternatively, the worker of ordinary skill in the art at the time the invention was made to select the thickener among those taught in Oya et al taught in Oya et al in expectation of imparting the coating property of a coating solution containing polymer latex. The gelling agent claimed in claims 9, 15, 16, 22-24 such as gum Arabic or polysaccharides are family of starch group taught in Oya et al.

Art Unit: 1752

10. Claims 1-7, 9-13 15-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oya et al (US 2001/0051319A1) in combination of Derwent-Acc-No. 1982-84594E and Andrews et al (US Patent No. 4,113,854). The teaching of Oya et al is as shown above. The gelation accelerator for starch composition is taught in Derwent-Acc-No. 1982-84594E. It would have been obvious to the worker of ordinary skill in the art at the time the invention was made to use a known gelation accelerator taught in Derwent-Acc-No. 1982-84594E to increase the gelling rate of the water-soluble polymer including starches, and thereby provide the invention as claimed. The polysaccharide claimed in claims 22-24 have been known in Andrews et al in column 3, lines 30-45 and column 2, lines 34-49.

Response to Arguments

Applicant's arguments filed on December 7, 2005 have been fully considered but they are not persuasive for the reason set forth in the rejection above. The invention as claimed is related to the use of the "gelation accelerator" in the photothermographic material which in a layer different from that containing "gelling agent". Oya et al disclose the use of Ca^{2+} ion that having the property as gelation accelerator such as disclosed in the present invention. Therefore, Oya et al disclose the use of gelation accelerator in the photothermographic material. Moreover, the protective layer or the layer of the protective layer that contains polymer latex requires the water-soluble thickener such as polyvinyl among others known in the art to impart the coating property. The thickener function is increase the viscosity of the coating, and when the viscosity increase, the fluidity of the coating composition increase. There is no difference between the thickener taught in Oya et al and the gelling agent claimed in the present claimed invention because they are the same nature such as starches, seaweeds, vegetable adhesive substances

Art Unit: 1752

(gum Arabic etc ..), animal proteins (glue, casein, gelatin, egg white) and adhesive fermentation product (pullulan, dextran) and semi-synthetic cellulose. See for instance the pullulan, dextran, gum Arabic, starch claimed in claim 9 or 15 vs. water-soluble polymer taught in Oya et al. The applicants appears to relied to the term "gelling agent" or "thickener", but fails to compare the items listed as "gelling agent" and "thickener" disclosed in the specification disclosure and those disclosed in Oya et al. They are from the same group and would have similar property. "product of identical composition can not have mutually exclusive properties." A chemical composition and its properties are inseparable. Therefore, if prior art teaches the identical chemical structure, the properties applicants disclosed and/or claims are necessarily present. In re Spada, 91 1 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990)." See the gelling agent disclosed in the specification disclosure such as dextran, methylcellulose, carboxymethylcellulose, starch, pullulan or gum Arabic are disclosed in Oya et al and disclosed in the present specification disclosure. Accordingly, it is believed that the invention as claimed is not patentably distinct from that taught in Oya et al. The applicants may argue that "the use of the gelation accelerator" minimize the amount of the gelling agent required. The argument is not persuasive. The minimizing of the gelling agent may be achieved by using the gelation accelerator in combination with the gelling agent. However, the scope of the claimed invention fails to reflect such advantage by suing the gelation accelerator in a layer containing the gelling agent. See the scope of the claims wherein the photothermographic material further comprises the gelation accelerator which encompasses the scope of using the gelation accelerator in the gelling agent containing layer. Moreover, the use of the gelation accelerator for the starch has been known in the Derwent-Acc-No. 1982-84594E and Andrews et al (US Patent No. 4,113,854), and it would

Art Unit: 1752

have been obvious to the worker of ordinary skill in the art to use the gelation acceleration of the same purpose.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thorl Chea whose telephone number is (571) 272-1328. The examiner can normally be reached on 9 AM-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia H. Kelly can be reached on (571)272-1526. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tchea *th*
02-21-06

Thorl Chea
Thorl Chea
Primary Examiner
Art Unit 1752